

CLAIMS:

1. Display apparatus (1), comprising:
 - an electrophoretic material (5) comprising charged particles (6) in a fluid;
 - a plurality of picture elements (2);
 - first and second electrodes (3, 4) associated with each picture element (2) for
5 receiving a potential difference, said charged particles (6) being able to occupy a
position being one of a plurality of positions between said electrodes (3, 4); and
 - drive means arranged to supply a sequence of picture potential differences in the form
of a driving waveform for enabling said charged particles (6) to occupy one of said
positions for displaying an image, the driving waveform consisting of a sequence of
10 image update signals including a picture potential difference, the image update
signals being separated by dwell times, wherein one or more shaking pulses are
generated during the dwell times.
2. Display apparatus (1) according to claim 1, wherein said one or more shaking
15 pulses are generated following each image update signal.
3. Display apparatus (1) according to claim 2, wherein said one or more shaking
pulses are generated substantially immediately following each image update signal.
- 20 4. Display apparatus (1) according to claim 2 or claim 3, wherein each image
update signal comprises a reset pulse and a greyscale driving pulse.
5. Display apparatus (1) according to claim 4, wherein each image update signal
includes one or more shaking pulses.
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6. Display apparatus (1) according to claim 5, wherein one or more shaking
pulses are provided prior to the reset pulse of each image update signal.

7. Display apparatus (1) according to claim 6, wherein one or more shaking pulses are provided between the reset pulse and the greyscale driving pulse of each image update signal.
- 5 8. Display apparatus (1) according to any one of claims 2 to 7, wherein a sequence of shaking pulses is generated following each image update signal, the energy of the shaking pulses of each sequence decreasing progressively during said sequence.
9. Display apparatus (1) according to claim 1, wherein said one or more shaking
10 pulses comprise regular shaking pulses which are generated at predetermined intervals along said driving waveform.
10. Display apparatus (1) according to claim 9, wherein said intervals are substantially equi-distant.
- 15 11. Display apparatus (1) according to claim 9 or claim 10, further including charge recycling means within a power supply used to generate said regular shaking pulses.
12. Display apparatus (1) according to any one of claims 9 to 11, comprising
20 means for temporarily preventing said regular shaking pulses from being generated during an image update sequence, and recommencing generation of said regular shaking pulses after the image update sequence has been completed.
13. Display apparatus (1) according to any one of claims 9 to 12, arranged and
25 configured to operate in one of at least two modes, and further including means for switching between said two modes.
14. Display apparatus (1) according to claim 13, arranged and configured to
operate in one of a first mode, in which generation of said regular shaking pulses is enabled,
30 and a second mode, in which generation of said regular shaking pulses is disabled.
15. A method of driving a display apparatus (1), the apparatus comprising:
- an electrophoretic material (5) comprising charged particles (6) in a fluid;
 - a plurality of picture elements (2);

- first and second electrodes (3, 4) associated with each picture element (2) for receiving a potential difference, said charged particles (6) being able to occupy a position being one of a plurality of positions between said electrodes (3, 4); and
- drive means arranged to supply a sequence of picture potential differences in the form of a driving waveform for enabling said charged particles (6) to occupy one of said positions for displaying an image, the driving waveform consisting of a sequence of image update signals including a picture potential difference, the image update signals being separated by dwell times;

the method including the step of generating one or more shaking pulses during the dwell times.

16. Driving apparatus for driving a display apparatus (1), the display apparatus comprising:

- an electrophoretic (5) material comprising charged particles (2) in a fluid;
- a plurality of picture elements (2);
- first and second electrodes (3, 4) associated with each picture element (2) for receiving a potential difference, said charged particles being able to occupy a position being one of a plurality of positions between said electrodes (3, 4); and

wherein the driving apparatus is arranged to supply a sequence of picture potential differences in the form of a driving waveform for enabling said charged particles (6) to occupy one of said positions for displaying an image, the driving waveform consisting of a sequence of image update signals including a picture potential difference, the image update signals being separated by dwell times, the driving apparatus further comprising means for generating one or more shaking pulses during the dwell times.